ENERGY POLICY UPDATE

MARCH 24, 2015

Governor's Office of Energy Policy

The Energy Policy Update Electronic Newsletter is published by the Arizona Governor's Office Of Energy Policy and is provided free of charge to the public. It contains verbatim excerpts from international, domestic energy, and environment-related publications that are reviewed by Community Outreach Personnel. For inquiries, call 602-771-1143 or toll free to 800-352-5499. To register to receive this newsletter electronically or to unsubscribe, email Gloria Castro.

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Western Governors' Drought Forum Webinar Series:
Click here for more information or to register.

March 25: Managing Forest Health for Water Resources

April 8**:** One Size Doesn't Fit All: Why Variation in Hydrology and Legal Structures means that Drought Looks Different across the West

Like our Facebook page! Learn more about energy in Arizona, get daily posts on a variety of energy topics and use the Comment Section to tell us what you think or ask questions of our energy experts.

The Arizona Republic now has limited access. As such, links may or may not work.

ARIZONA-RELATED

Business Groups Press Ariz. Legislature To Stop Tempe Plastic Bag Ban, Phoenix Energy Rules

[Phoenix Business Journal, Mar. 23] Eleven business and real estate groups have written Arizona lawmakers asking them to pass a bill prohibiting Phoenix from requiring building owners to report energy consumption and Tempe from prohibiting the use of plastic grocery bags. Senate Bill 1241 pits some major business groups against environmental advocates and two of the state's largest cities. The Arizona Chamber of Commerce & Industry, Arizona Restaurant Association, Arizona Retailers Association, NAIOP-AZ, and associations representing gas stations, apartment landlords and grocery stores have written lawmakers backing the state ban. "Businesses are already highly incentivized to reduce their energy costs and do not need additional regulations," the letter reads.

Critics Question SRP's Solar-Energy Payments

[Arizona Republic, Mar. 15] Several critics of Salt River Project's recent decision to charge higher fees to solar customers accused the public utility of "profiting" from the solar power it gets from rooftops and sells to other customers. Several of the people who attended SRP's public meetings on the rate changes asked for a full accounting of the surplus power SRP gets from rooftop solar. It's a little difficult to follow the logic from such complaints. If SRP were profiting from customers' rooftop solar, wouldn't it be encouraging more rooftop solar, not raising rates on those customers and likely discouraging the technology? Utilities are targeting rooftop solar for higher fees specifically because they are not good for power companies' incomes. Figures from SRP show rooftop solar is not a profit center for the utility, at least not under its old rate schedule that 15,000 solar customers use. Solar customers who signed up since Dec. 8 will have a different rate schedule. The average solar customer in SRP territory generated nearly 12,000 kilowatt-hours of excess electricity last year that was sent to the grid. Those customers received retail credits of about 10 cents each for that power. When a customer's rooftop solar panels generate electricity, the power is used at the residence, if any appliances are running. This offsets power that otherwise would be purchased from the utility. But if there are few appliances running, the solar power is sent to the power grid, and the customer gets a one-to-one retail credit for each kilowatt hour. This is called net metering, where customers are billed for what they use and credited for what they provide to the grid. When solar customers use power at night from SRP, when their panels are not making any, they "spend" those credits. The excess credits can roll over from month to month, but only to the end of the fiscal year. So the average SRP solar customer last year earned about $1,200 by selling power to SRP for 10 cents/kwh, in addition to power they used on site to offset their purchases. SRP can buy power from large solar power plants for much less than that. It has a contract to buy power from one solar plant for 5.3 cents/kwh. That's why many solar opponents consider net metering a subsidy, although the actual value of rooftop solar vs. solar from large solar plants is a hotly contested issue.

Drought To Continue in West, Forecasters Predict

[Republic Washington Bureau, Mar. 23]
WASHINGTON – The spring weather outlook for the West issued last week by federal

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ENERGY STAR Webinars

U.S. Dept. of Energy Tribal Renewable Energy Webinar Series

U.S. Dept. of Energy Webinars

2015 UPCOMING EVENTS

Balance-Unbalance Int'l. Conference; Water, Climate, Place: Reimagining Environments
Mar. 27-29 Tempe, AZ

NEW! Solar Power Plant Design Fundamentals
Mar. 30-31 Litchfield Park AZ

NEW! REAP Roundup: Project Financing Webcast
Apr. 2

Arizona Science & Engineering Fair
Apr. 7-9 Phoenix, AZ

Tribal Economic Outlook Conference
Apr. 9 Flagstaff, AZ

Solar Summit 2015
Apr. 14-16 Phoenix, AZ

NEW! Tribal Economic Development in the Southwest Conference
Apr. 16-17 Albuquerque, NM

NEW! Tribes and the New Energy Economy Conference
Apr. 22-23 Albuquerque, NM

Utility Solar Conference
Apr. 27-29 San Diego, CA

CxENERGY 2015 Conference & Expo
Apr. 27-30 Las Vegas, NV

NEW! 16th Peak Load Management Alliance Spring Conference
Apr. 28-29 Tucson, AZ

Alternative Clean Transportation (ACT) Expo
May 4-7 Dallas, TX

NARUC Utility Rate School - Western
May 11-15 San Diego, CA

NEW! 2015 Energy Symposium
May 12-14 Monterey, CA

forecasters has a familiar ring to it: continuing drought conditions leading to greater wildfire risk. The National Oceanic and Atmospheric Administration forecast predicts drought will persist or worsen in Arizona, California, Nevada, Oregon and western Colorado through June. "Periods of record warmth in the West and not enough precipitation during the rainy season cut short drought relief in California this winter, and prospects for above-average temperatures for this spring may make the situation worse," said Jon Gottschalck, with NOAA's Climate Prediction Center. Arizona, California, Nevada, Utah and Washington had their warmest winters on record, Gottschalck said. Above-average temperatures are expected to continue this spring in the Far West and northern Rocky Mountains. Above-average precipitation is predicted for parts of the Southwest and the southern and central Rockies. The above-average precipitation predicted for Colorado over the next three months could reduce drought conditions in the southeast part of the state. The moisture could ease the fire season, Gottschalck said, but also could increase undergrowth that worsens the situation. Most of the precipitation that fell in California was rain instead of snow, leaving record-low snowpack snow pack. That means less runoff to replenish reservoirs and lakes. The San Joaquin Valley has received two years' worth of precipitation in the past four years, Gottschalck said. The drought is entering its fourth year. "If the drought persists as predicted in the Far West, it will likely result in an early and active wildfire season, continued stress on crops due to low reservoir levels and an expansion of water-conservation measures," he said.

Tempe Wants To Sack Plastic Bags

[Arizona Republic, Mar. 18] Paper or plastic could soon become a moot question in Tempe grocery stores as the city looks to become the first in the Valley to ban plastic bags. Saying that plastic bags clog landfills and defile the environment, Tempe officials are in the early stages of studying whether to follow a nationwide trend and ban them altogether from retail stores. Dozens of cities in 18 states and the District of Columbia have adopted plastic-bag ordinances, which range from outright bans to charging a tax on each bag used. Tempe would be the second city in the state behind Bisbee to enact a plastic-bag ordinance. Flagstaff is considering a plastic-bag ban. Tucson modified its plastic-bag ordinance in 2012, but the new rules didn't ban or tax bags. Instead it compelled grocers to track and report how many bags it handed out and recycled. The ordinance also required stores to train employees on how to cut down on plastic bag use, such as not bagging gallons of milk or other items with handles.

Yuma Unveils Solar Fields for Treatment Plants

[Yuma Sun, Mar. 20] The city of Yuma officially unveiled two solar array fields powering its east side water and sewage treatment plants on Friday, touting the installations' money-saving powers and environmental friendliness. A dedication ceremony was held at the Agua Fria Water Treatment Facility on Avenue 9E in northeast Yuma, which also stood in for its harder-to-reach sibling at Desert Dunes Water Reclamation Facility, on Avenue 6E. Both facilities cover about two-and-a-half acres near the treatment plants. City Utilities Director Jay Simonton said both arrays were installed at no cost to the city by contractor GES, which will maintain the equipment and sell the power it generates to the city, at a lower price than it would be getting from Arizona Public Service. That rate also will remain the same through the 20-year agreement with GES, so the $40,000 savings expected at each location during the first year will likely increase over the coming two decades, he said. The solar panels will generate about a third of the power needed by each plant, which now costs about $750,000 per year.

ALTERNATIVE ENERGY & EFFICIENCY

Developer Pursues Floating Solar Projects in US

[Renewable Energy World, Mar. 20] NEW YORK --Solar Power Inc., a renewable-energy developer backed by China's LDK Solar Co., is joining with Aqua Clean Energy to develop floating solar projects in the U.S. and Mexico. The joint venture would put solar panels on platforms in reservoirs, quarry lakes, irrigation canals and tailing ponds, Shanghai-based Solar Power said in a statement Thursday. The joint venture is considering projects in California, Arizona, New Mexico, Texas and Mexico. In addition to the environmental benefits of clean power, the platforms will reduce water evaporation and slow algae growth, Solar Power said. The two companies have identified more than 50 megawatts of potential projects. "This technology not only generates clean solar power energy, but also serves to conserve water in critically dry regions like the southwestern U.S. and California in particular, which is now experiencing its fourth consecutive year of drought," Peng Xiaofeng, chairman of SPI, said in the statement. Jacqueline Lilinshtein, a Bloomberg New Energy Finance analyst, said the concept may have a limited market appeal and only a small impact on water conservation.

NEW! NASEO 2015 West Regional Meeting
May 14-15 Portland, OR

Solar Power Generation Mexico
May 19-20
World Trade Center, Mexico

Better Buildings Summit
May 27-29 Washington, DC

Energy Efficiency Finance Forum
May 31-Jun. 2 San Francisco, CA

Industrial Energy Tech. Conference 2015
Jun. 2-5 New Orleans, LA

33rd West Coast Energy Mgmt. Congress
Jun. 3-4 Long Beach, CA

NEW! National Geothermal Summit
Jun. 3-4, Reno, NV

14th Annual Small Business Forum & Expo
Jun. 16-18 Phoenix, AZ

ASHRAE Annual Conference
Jun. 27-Jul.1 Atlanta, GA

ACEEE Summer Study on Energy Efficiency in Industry
Aug. 4-6 Buffalo, NY

Energy Efficiency Exchange: Federal Training & Knowledge
Aug. 11-13 Phoenix, AZ

Solar Power Int'l. 2015
Sep. 14-17 Anaheim, CA

2015 North American NGV Conference & Expo
Sep. 15-17 Denver, CO

ACEEE National Conference on Energy Efficiency as a Resource
Sep. 20-22 Little Rock, AR

World Energy Engineering Congress (WEEC)
Sep. 30-Oct. 2 2015 Orlando, FL

Greenbuild Int'l. Conference & Expo
Nov. 18-20 Washington, DC

Renewable Energy World Conference & Expo
Dec. 8-10 Las Vegas, NV

ASU Sustainability Series Events

Green Building Lecture Series
Scottsdale, AZ

Energy Department Selects 11 Tribal Communities to Deploy Energy Efficiency and Renewable Energy Technologies

[Energy.gov website, Mar. 18] WASHINGTON – The U.S. Department of Energy (DOE) announced today that 11 tribal communities will receive nearly $6 million to accelerate the implementation of renewable energy and energy efficiency technologies on tribal lands. As part of the Obama Administration's commitment to partner with Tribal Nations, these projects provide Indian Tribes and Alaska Native villages clean energy options that will reduce fossil fuel use and save money. With tribal renewable energy resources comprising approximately five percent of all U.S. renewable energy resources, these facility- and community-scale projects support national energy goals to strengthen tribal energy self-sufficiency, create jobs and further economic development. The projects represent a total investment value of $13.5 million. The department's funding is expected to be leveraged by nearly $7.5 million in cost share by the selected Indian Tribes.

Plug and Play: Purchase, Install, and Connect Residential Solar Power in Hours

[Energy.gov, Mar. 16] Consumers may soon have the option of purchasing a do-it-yourself rooftop solar photovoltaic (PV) system at their local home improvement store that can be installed and connected to the grid in less than a day. Thanks to SunShot Initiative awardee Fraunhofer Center for Sustainable Energy Systems (CSE), a novel residential Plug and Play PV system may soon be commercially available. Today, non-hardware "soft costs" -- like permitting, installation, and interconnection -- make up more than half the total cost of solar energy system. To tackle these soft costs, Fraunhofer CSE developed its Plug and Play PV system with a $5 million SunShot award in February 2013. Their innovative system comprehensively addresses every aspect of connecting a solar energy system and simplifies the processes involved to install, inspect and permit a rooftop solar energy system. This innovative solution aims to drastically reduce the current cost of PV system installation by 62%, or $4 per watt today to $1.50 per watt in 2020, in support of the SunShot cost target.

Our Cities Could Become High-Density Solar Power Plants

[GIZMODO.com website, Mar. 17] Solar energy has a dark side. Those gargantuan plants that sprawl out like deconstructed disco balls sacrifice valuable open space and put wildlife, and possibly human lives, at risk. A new study by Stanford researchers says that focusing our solar energy efforts in already-developed urban areas could yield more power—by collecting energy where we actually use it. The idea of turning our cities into large-scale energy production centers doesn't sound that radical, but it's drastically different from the way power is delivered to our homes. For the most part, utility companies treat solar energy the same as other location-specific energy sources like hydroelectric plants or wind farms, so the majority of solar collection happens on dedicated land far, far away from cities. Building the infrastructure systems to transport the energy from these rural areas into the city can end up costing almost as much as the plants themselves *and* cause the same level of environmental disturbance all the way back to town. And then you have to use energy to get it there. It doesn't make much sense. The Stanford study, which was published in this month's *Nature Climate Change*, turns this traditional utility model on its head. Looking at California, the current leader in solar energy production, researchers estimate that investing in a combination of both photovoltaic power (the typical solar panel) and concentrating solar power (how a plant like Ivanpah, the world's largest, works) in cities alone would not only be more efficient, it would generate enough to supply the state with all its power needs—at least three times over.

Outlook for Solar Gets a Bit Brighter

[New York Times, Mar. 18] LONDON — Here is a trick question: Which country led the European Union last year in putting new solar panels on rooftops and in countryside energy parks? If you chose sunny Spain or balmy Italy, you were wrong. Britain, the green and pleasant land often shrouded in cloud, was the leader, according to the market research firm I.H.S. Britain, like other countries in the European Union, has pledged to sharply cut carbon dioxide emissions blamed for global warming. In practice, that largely means encouraging electric power generation from green sources like wind, which Britain has in abundance, and solar, a resource in which it is less well endowed. "Britain is the hottest market right now," said Josefin Berg, a Barcelona-based analyst for I.H.S. In part, Ms. Berg said, Britain's solar boom is being artificially stoked by generous government subsidies. But solar, perhaps to a greater extent than other renewable energy technologies, has also seen a dramatic fall in costs, on the order of more than 60 percent over the last five years. That makes it worth considering as an energy source in places like Britain where investors and developers would have scoffed a few

years ago. ”There is quite a lot of solar being built in the U.K.,” said Rory O’Connor, head of renewable power in Europe for the investment firm BlackRock. “This really demonstrates how far the industry has come.” A number of factors have helped drive down the costs of solar panels. Manufacturers in China and elsewhere in Asia have scaled up, flooding Western markets with inexpensive panels. (The low prices have squeezed Western rivals and led to antidumping measures by the United States and Europe. causing costs to rise again, but probably only temporarily.) Silicon, the key ingredient in the cells, has also become much cheaper. Costs around the world have fallen to such an extent that solar can compete with other forms of power generation like natural gas or coal and win, its advocates say.

Total Solar Eclipse “Blacks Out” Europe

[Power Magazine, Mar. 20] Several gigawatts of solar energy faded from European grids during the two-hour solar eclipse that shadowed the continent, as well as parts of Northern Africa and Asia, on Friday morning. But according to the European Network of Transmission System Operators for Electricity (ENTSO-E)—an organization representing 41 transmission system operators (TSOs) from 34 European countries—grid operators successfully managed the fast variations in solar generation. “The European power system needs to be balanced every single second. Between 9.00 and 12.00, Brussels time, TSOs had to reinforce their cooperation to cover the unusually fast loss followed by even faster reintegration of some 17 GW of solar generation,” it said. ENTSO-E said preparations to ensure reliability during the eclipse had been underway for several months. Distribution System Operators and generators notably responded to the call for proactive cooperation. The group’s Solar Eclipse Impact Analysis called the event an “unprecedented challenge” for European TSOs. “Solar eclipses have happened before but with the increase of installed photovoltaic energy generation, the risk of an incident could be serious without appropriate countermeasures,” it noted.

ENERGY/GENERAL

Construction on Underwater Lake Erie Transmission Line Could Begin by 2016

[Fierce Energy, Mar. 19] A transmission line planned for the floor of Lake Erie could begin construction as early as 2016, according to project planners. The transmission line -- the Lake Erie Connector -- will span 73 miles from Ontario, Canada to western Erie County. ITC Holdings Corp., which acquired the development and ownership rights to the Lake Erie Connector from Lake Erie Power Corp. in June 2014, held an open house about their plans this week. "This project will create a more reliable grid and also deliver mutual benefits on either side of the line in Pennsylvania and Ontario while strengthening the grid overall," ITC spokesman Bob Doetsch said, according to GoErie.com. According to the company, the 1,000 megawatt (MW) submarine line will be the first direct connection between the Independent Electricity System Operator (IESO) in the Province of Ontario, Canada and the PJM regional transmission organization. The project "will allow the bi-directional flow of power and associated benefits between the two countries," according to the planners. "The high-voltage submarine direct current (HVDC) project will provide system reliability benefits to both regions." According to ITC, there will be two DC/AC converter stations: in Nanticoke, Ontario and in Conneaut Township, Pennsylvania.

Study: Coal Power Is Cheap, Abundant — and Controversial

[Electric Light & Power, Mar. 23] The Brookings Institution, the famous Washington, D.C. think-tank, is examining the coal industry in a series of publications, with the first being titled “Coal Markets in Motion.” Coal “offers an array of advantages and disadvantages which can polarize views and leave nuance aside,” according to the seven-page issue brief released this month. It is a cheap, abundant fuel both in the United States and many other nations. In many developing economies coal “is a tool for poverty alleviation,” according to the report. But at the same time it is a major source of not only pollutants like sulfur dioxide, nitrogen oxides and mercury but also a big source of carbon dioxide, which is a major greenhouse gas, according to GenerationHub. “These characteristics form the basis of an ongoing spirited debate over the role and future of coal, manifested in specific issues including the above-mentioned U.S. EPA’s Clean Power Plan, the upcoming Conference of the Parties in Paris, support for coal-fired projects in developing countries, and policy incentives for CCS [carbon capture and storage],” Brookings said in the publication. As part of its research methodology, the Energy Security and Climate Initiative at Brookings has formed a Coal Task Force that includes government officials, the private sector, academia, international organizations, financial institutions, and others. The group meets periodically to gain insight on important issues surrounding coal. Meetings of the task force are off-the-record and under “Chatham House

rule." While many believe that CCS is vital to helping the world meet its carbon reduction goals, the International Energy Agency (IEA) has reduced its projections from 100 large-scale CCS projects by 2020 to 30, Brookings noted.

INDUSTRIES AND TECHNOLOGIES

Electric Vehicles Could Cut Home Air Conditioner Use

[GizMag.com website, Mar. 19] Those who question the environmental benefits of electric vehicles over their gas-guzzling brethren often point out that the electricity powering EVs usually comes from fossil fuel-burning power plants. But a study conducted by researchers at Michigan State University (MSU) and Hunan University in China has revealed some hidden benefits of EVs, regardless of where the electricity originates. Most people will have witnessed the heat haze above a line of traffic stuck on a freeway in summer. These vehicles are contributing to the urban heat island effect. This in turn results in city dwellers cranking up the office and home air conditioning, which in turn further adds to the outdoor heat and sends electricity usage northwards. The study, led by Professor Canbing Li, found that electric vehicles could help mitigate both of these related problems. With electric vehicles emitting only around 20 percent of the heat that a gasoline vehicle produces, swapping them with gas vehicles could significantly reduce the temperature in a city, thereby reducing air conditioner usage. They calculated that in the summer of 2012, switching vehicles from gas to electricity could have reduced the urban heat island intensity by almost 1° C (2.8° F) in Beijing, which would have saved the city 14.4 million kWh of electricity from reduced air conditioner usage and cut CO2 emissions by 11,779 tons per day.

Global Single-Axis Tracker Revenues Expected to Reach Nearly $2 Billion in 2019

[Solar Novus Today, Mar. 23] Global single-axis tracker revenues are expected to grow 120%, to reach nearly $2 in 2019, according to IHS, the leading global source of critical information and insight. For the first time, single-axis trackers will be the preferred type of structural balance of system (BoS) ground mount in the Americas in 2015. Overall global ground-mount solar photovoltaic (PV) installations are forecast to increase an average of 7% per year, reaching 33 gigawatts (GW) in 2019; utility-scale installations will account for 73% of the total.

SolarCity, a Vocal Critic of the Utility Industry, Joins It

[New York Times, Mar. 16] As SolarCity, the rooftop solar system provider, has rapidly expanded its reach over the last few years, its executives have pushed hard against the utility industry, criticizing it as a hidebound monopoly standing in the way of change. Now, SolarCity officials are trying a different tactic: moving into that business themselves. On Monday, company executives announced a program aimed at cities, remote communities, campuses and military bases under which they will design and operate small, independent power networks called microgrids. While the move will not turn the company into, say, Con Edison overnight, it represents a step in that direction. "The microgrid product is basically a culmination of all of the technology that SolarCity's been developing over the past eight years," said Peter Rive, the company's co-founder and chief technical officer, calling it "a template that can be scaled up to basically be the next-generation grid." He said that he and other executives were convinced "that if there was a utility that was particularly aggressive, they could manage their distribution system far more efficiently through distributed resources." Eventually, he said, they asked themselves, "Well, why don't we actually run the grid?" SolarCity is announcing its new undertaking as the rooftop solar industry is realigning, with upstart companies seeking to create partnerships and expand their roles while more established companies from energy and other spheres seek to capture a piece of the expanding solar market. Those shifts are part of the natural evolution of a maturing industry, but also are a result of the approach of December 2016, when an important solar investment tax credit will decline to 10 percent from 30 percent, executives and analysts said.

Worldwide Capacity of Distributed Energy Storage Systems To Increase Nearly 10-Fold In Next 3 Years, Says Navigant

[Navigant Research, Mar. 18] The focus of rapid innovation and intense competition, the market for distributed energy storage systems (DESSs) has exceeded industry expectations for growth and market volume in recent years. Responding to this demand, grid operators, utilities, and governments are encouraging storage installations that are physically situated closer to the retail electricity customer. According to Navigant Research, worldwide capacity of DESSs is expected to grow from 276 megawatts (MW) in 2015 to nearly 2,400MW in 2018.

LEGISLATION AND REGULATION

Federal Electric Power Subsidies Down by a Fourth As Supports Change

[Electric, Light & Power, Mar. 16] Between FY 2010 and FY 2013, the total value of direct federal financial interventions and subsidies in energy markets decreased 23 percent from $38 billion to $29.3 billion dollars, according to the Energy Information Administration. This reflects changes in both the type of subsidies offered and fuels that received support. EIA's updated study focuses on direct federal financial interventions by the federal government that provide a financial benefit with an identifiable federal budget impact and are specifically targeted at energy markets.

Lawmakers Look To Even the Playing Field for Geothermal

[Fierce Energy, Mar. 23] Legislators have reintroduced legislation that will help encourage geothermal energy production on public lands. The Geothermal Production Expansion Act is meant to prevent price increases on public land due to geothermal projects. The bill was introduced by Sen. Jeff Merkley and Sen. Ron Wyden of Oregon. The federal government manages numerous geothermal projects through the Bureau of Land Management (BLM), and according to Sen. Wyden, there is around 250 million acres with the potential for geothermal. The bill would redefine the federal geothermal leasing program to prevent speculative bidders from driving up the price of land with geothermal potential. About half of the total geothermal generating capacity in the U.S. is currently through projects on BLM land.

Obama Mercury Air Pollution Rule Faces Test At U.S. Top Court

[Reuters, Mar. 24] The latest legal test of President Barack Obama's environmental agenda reaches the U.S. Supreme Court on Wednesday as the justices consider a challenge to a regulation intended to limit emissions of mercury and other hazardous pollutants mainly from coal-fired power plants. The nine justices are due to hear a 90-minute oral argument on whether the U.S. Environmental Protection Agency should have considered the cost of compliance when deciding whether to regulate the pollutants. Industry groups and some states appealed after an appeals court upheld the regulation in June 2014. The case marks the third time in the past year that the Supreme Court has reviewed Obama's air pollution regulations, with his administration mostly winning the two previous cases.

Partnership Releases Better Buildings Workforce Guidelines

[Sustainable Cities Network, Mar. 16] WASHINGTON, D.C. -- As a part of the Obama Administration's effort to support greater energy efficiency through the Better Buildings Initiative, the U.S. Department of Energy and the National Institute of Building Sciences announced new Better Buildings Workforce Guidelines. The Better Buildings Workforce Guidelines, developed with feedback from industry experts, will help enhance and streamline commercial building workforce training and certification programs. "As building technologies become more advanced, professionals need better training and certification options to increase the quality and scalability of our nation's energy workforce," said Kathleen Hogan, Deputy Assistant Secretary for Energy Efficiency. "Employers, building owners and program administrators can also use these established guidelines to identify qualified workers who are trained to deliver energy savings." The guidelines provide a national framework for certification agencies across the country to roll out consistent programs. Up until now there have been no national guidelines for energy efficiency-related professional credentials, posing a barrier to the quality, consistency and scalability of this workforce. The Energy Department and the Institute worked side-by-side with industry trade associations, governing credential boards and energy efficiency advocates to develop the professional certification and certificate program guidelines for four key energy-related jobs: energy manager, building energy auditor, building operations professional and building commissioning professional.

Recent IRS Guidance Provides Clarity for PTC Eligible Wind Facilities

[National Law Review, Mar. 18] The IRS recently issued anticipated guidance regarding the placed in service requirement for the *production tax credit ("PTC")*. An eligible facility must have commenced construction prior to 2015 and be placed in service before January 1, 2017 to qualify for the PTC. Pursuant to the *Tax Increase Prevention Act of 2014*, Congress extended the deadline by one-year for when construction of a PTC eligible renewable energy facility had to begin. The legislation stated construction on such facilities had to begin prior to January 1, 2015 for the project to be eligible for the PTC. The IRS did not immediately issue guidance reflecting the application of such one-year extension. The previously issued IRS guidance[1] contains two safe harbors that taxpayers can satisfy to establish the beginning of

construction, the “continuous construction test” and the “continuous efforts test.” Such guidance also provides that if a facility is placed in service prior to January 1, 2016, the taxpayer is deemed to meet the requirements of both tests. IRS Notice 2015-25 clarifies that renewable projects on which construction began in or prior to 2014 can rely on such previously issued IRS guidance and extends the placed in service deadline to be treated as satisfying both safe harbor tests by one-year.

Renewable Energy Mandate Freeze Considered

[Associated Press, Mar. 18] A Kansas House panel is planning to debate a bill that would freeze renewable energy mandates for utility companies. The House Energy and Environment Committee scheduled a vote on the measure for Wednesday. Current Kansas law requires that 10 percent of the electricity provided by utilities companies come from renewable energy sources. That mandate is set to rise to 15 percent in 2016 and 20 percent in 2020, but the bill would eliminate those future requirements.

Stricter Fracking Rules on Federal Lands Could Cut Oil, Natural Gas Production

[Washington Bureau, Mar. 20] The Interior Department issued stricter standards Friday for hydraulic fracturing on federal lands, rules the oil industry contends will limit domestic production of oil and natural gas. The new rules, which go into effect in 90 days, aim to protect groundwater water by strengthening requirements for cement barriers between wellbores and water zones. It also requires companies to publicly disclose the chemicals they use in fracking, and boosts standards for temporary storage of recovered waste fluids. Companies also will be required to submit more detailed information about pre-existing wells in order to reduce the risk of cross-well contamination. More than 100,000 oil and natural gas wells are on federal lands. More than 90 percent of the wells currently being drilled use hydraulic fracturing. Fracking involves pumping water, sand and chemicals underground at high pressure in order to crack open rock layers and give wells access to oil or natural gas.

U.S. Government Embarks on Plan for Massive Energy and Water Use Cuts in Federal Facilities

[Fierce Energy, Mar. 24] Earlier this week, President Obama signed an Executive Order to reduce carbon pollution (40 percent from 2008 levels by 2025) from the federal government's operations by encouraging increased use of renewable energy and energy efficiency. The Executive Order calls for massive reductions in energy and water use in federal buildings and greenhouse gas emissions (GHG) from federal fleets. Specifically, the Executive Order directs Federal agencies to ensure that 25 percent of their total energy (electric and thermal) consumption is from clean energy sources by 2025; reduce energy use in Federal buildings by 2.5 percent per year (from a 2015 baseline) through 2025; reduce per-mile GHG emissions from Federal fleets by 30 percent (from a 2014 baseline) by 2025; and reduce water intensity in Federal buildings by 2 percent per year (from a 2015 baseline) through 2025. As the single largest energy consumer in the United States, this could potentially, over the next 10 years, save taxpayers an estimate $18 billion in avoided energy costs and reduce GHG emissions by 40 percent, according to the Alliance to Save Energy.

WESTERN POWER

As Wind Power Booms, Texas Lawmakers Consider Yanking Support

[Dallas News, Mar. 22] Thousands of wind turbines have sprung up across West Texas and up and down the Gulf Coast. Companies as diverse as Google and Dow Chemical are investing hundreds of millions of dollars in Texas in a race to lower their carbon emissions. With almost 20 percent of the country’s total capacity, Texas has become the undisputed king of wind energy. With so much success, state politicians are asking whether it’s time for Texas to end its support for the renewable power industry. State Sen. Troy Fraser, R-Horseshoe Bay, the chairman of the Senate Natural Resources Committee, has filed legislation to end the very renewable energy program he championed a decade ago, when wind power was still in its infancy. What began as a goal of 2,000 megawatts of renewable energy in 1999 was eventually increased to 10,000 megawatts, to be met by 2025. But wind boomed far beyond estimates. Texas passed that 2025 goal five years ago and now counts 12,800 megawatts of wind power — at times supplying more than a quarter of the electricity on the grid. “Mission accomplished. We set out to incentivize and get wind started in Texas, and we far surpassed that goal,” Fraser said. “There’s no state that’s come close to what we’ve done.” With the support of the state’s Public Utility Commission, Fraser wants to freeze the state’s Renewable Energy Credit program, ending a requirement that power retailers buy credits from wind and

solar farms to meet state renewable standards. Also, the $7 billion-and-counting Competitive Renewable Energy Zone project, which has constructed 3,600 miles of transmission lines to bring wind power to Dallas-Fort Worth, Houston and Austin, would officially end. The bill is expected to go before Fraser's committee on Tuesday, before being moved to the Senate for a vote. Already, renewable energy companies and environmental advocates are starting to lobby to let the program run through 2025, arguing that ending it with so little warning endangers an industry that has created more than 100,000 jobs statewide.

CA Drought Impacting Hydroelectric Output in a Big Way

[Fierce Energy, Mar. 20] The California drought has affected electricity rates in the state, due to less available hydroelectricity. In a report, the Pacific Institute found that rates of other power sources, including natural gas, have increased due to lack of water resources. "This severe drought has many negative consequences," Pacific Institute President Peter Gleick in a statement. "One of them that receives little attention is how the drought has fundamentally changed the way our electricity is produced. We hope this report prompts a lively debate on how to factor in a changing climate when we plan for electricity generation." According to the report, even though electricity demand is increasing, there isn't much being done to increase hydroelectric sources -- and there may be nothing that can be done. The report explained, "The percentage has diminished as demand for electricity has continued to grow, but total installed hydroelectricity capacity has remained relatively constant. Indeed, the ability to expand California's hydroelectric capacity is limited, as there are few undammed rivers, little unallocated water, and growing environmental, economic, and political constraints to adding new hydropower capacity."

El Paso Electric Puts Two Power Plants Units into Operation

[Electric Light & Power, Mar. 23] El Paso Electric (EPE) said March 20 that commercial operation has started for the first two generating units at the Montana Power Station, according to GenerationHub. The two 88 MW simple-cycle aero-derivative combustion turbines are fired by natural gas. The technology provides quick start capabilities, allowing the units to go from offline to full output in less than 10 minutes, thus increasing overall power grid stability.

Land Commissioner Hears Concerns About SunZia

Public meeting in Deming follows 60-day suspension of project

[Headlight Deming News, Mar. 10] DEMING – Hoping to gain a better understanding of the proposed SunZia Southwest Transmission Line, New Mexico State Land Commissioner Aubrey Dunn met with Luna County residents Tuesday evening to get public input. "A lot of people have been dealing with this since '06, we have been in office since January first," Dunn said. "We have only been able to assess the project for about 70 days. When we put a stop to it, we were only in office 24 days." Dunn delayed the project moving forward by issuing a 60-day right-of-entry suspension to SunZia shortly after the transmission line project gained approval from the Secretary of the Interior, Sally Jewell, and the Bureau of Land Management.

Researchers Tout Energy Innovations, Say New Mexico Could Play Role in Reshaping Power Grid

[Santa Fe New Mexican, Mar. 19] A liquid metal battery that's long-lasting, efficient and cost-effective to build. A small modular nuclear reactor that fits in a space the size of a football field and could power all of Santa Fe. The two technologies attracted a room full of energy nerds, researchers and at least one Sierra Club member at La Fonda on Thursday morning for a free talk about potential game-changers for a power grid that has remained pretty much the same for a century. Donald Sadoway, an electrochemistry professor at the Massachusetts Institute of Technology, talked about the liquid metal battery that he and a team of students built and are now manufacturing with help from investors such as Bill Gates. Pierre P. Oneid, senior vice president and chief nuclear officer of Holtec International, spoke about the 160-megawatt modular reactors the company is building, along with plane-crash and earthquake-proof ways of storing the spent nuclear fuel for a millennium. Both companies are eyeing New Mexico as a place to potentially test, manufacture and market their products. Sadoway, a professor at MIT for 37 years, was named one of the 100 most influential scientists in the world in 2012 by *Time* magazine, and his team's research was featured in the prestigious science journal *Nature* in 2014.

State Senator Eyes Securing Electrical Power Grid

[Greenville Herald-Banner, Mar. 10] TEXAS – The United States has three main electrical power grids, one that covers the western U.S., one that covers the eastern portion, and one

that covers all of Texas. Protecting that grid from natural and manmade Electro Magnetic Pulse (EMP) incidents is high on Texas State Senator Bob Hall's to-do list. Hall has written a resolution, that if passed by the 84th Legislature of Texas , will urge the United States Congress to provide Department of Homeland Security funds for the protection of the electric grid. Hall highlighted how many of the devices citizens use on a daily basis depend on electricity. "It starts with how important electricity is," he said, ranking it just below food and water in importance. Hall's drive to harden -- the process of protecting electrical devices from EMP attacks -- the electrical grid stems from his tour as a project officer for hardening missiles from EMP attacks in the United States Air Force , he said. EMPs are created in different ways, through solar flares and storms known as the Carrington Effect, or through the detonation of a nuclear device above the earth's atmosphere, which induces a high current and "will fry everything electronic." The American Recovery and Reinvestment Act of 2009 has put a total of $4.5 billion toward increasing the reliability of the grids from storms and natural disasters. With United States Congressman John Ratcliffe's current position as chairman of Subcommittee on Cybersecurity in the Homeland Security Committee , Hall said he plans on speaking with him on the subject.

Tribes Try To Block Project

Colorado River Indian Tribes seek court injunction to block construction of Blythe solar project until lawsuit is resolved.

[The Press Enterprise, Mar. 18] The Colorado River Indian Tribes have asked a federal judge to block construction of a 6-square-mile solar energy project near Blythe until a legal challenge to the project's approval is resolved. According to court papers filed Monday, March 16, in federal District Court in Los Angeles, the tribes contend that allowing construction of the Blythe Solar Power Project would cause "substantial, irreparable, and immediate harm" by destroying artifacts from their ancestral lands and other resources they consider to be sacred. Construction is scheduled to begin next month, according to court papers. The request for a preliminary injunction, filed with Judge John A. Kronstadt, follows a December lawsuit filed by the tribes that seeks to nullify the project's approval. The suit argues that the Bureau of Land Management violated several federal laws governing environmental and cultural reviews when it approved the project. These laws included requirements that the tribes be properly consulted about the project's impacts on native artifacts and other cultural resources, the suit says. BLM spokesman Stephen Razo disputed the tribes' argument.

ARIZONA STATE INCENTIVES/POLICIES

ARIZONA COMMERCE AUTHORITY (ACA)

- **INCENTIVES**

Arizona has lowered taxes, streamlined regulations, and established a suite of incentives to support corporate growth and expansion. The Arizona Competitiveness Package, groundbreaking legislation adopted in 2011, makes it easier for existing Arizona companies to prosper and establishes Arizona as one of the most desirable places for expanding companies to do business. Give your company a competitive edge by utilizing Arizona's incentives.

- Job Training
- Quality Jobs
- Qualified Facility
- Computer Data Center Program
- Research & Development
- Foreign Trade Zone
- Military Reuse Zone
- Angel Investment
- Renewable Energy Tax Incentive
- Healthy Forest
- Sales Tax Exemption for Machinery and Equipment
- Lease Excise
- Additional Depreciation
- Work Opportunity
- Commercial/Industrial Solar
- SBIR/STTR
- Private Activity Bonds
- QECB's

- **(ACA) PROGRAMS**

- **DATABASE OF STATE INCENTIVES FOR RENEWABLES & EFFICIENCY (DSIRE)**

  - Arizona Incentives/Policies

- Federal Incentives/Policies
- Solar Policy News

DSIRE provides summaries of current solar policy developments and an archive of past solar policy developments. Current solar news appears below the news archive, which is searchable by several criteria.

GRANTS

Students – Geothermal Resources Council (GRC) – The GRC presents news and information for students in the global geothermal community. There are some great opportunities for student scholarships in geothermal. For more information, visit the link below. You will find "Scholarships" half way down the page.

Website: http://www.geothermal.org/students.html
The following solicitations are now available:
(Click on title to view solicitation)
- -

NEW! **Transforming Trash Into Resources**

The city of Phoenix is issuing a Call for Innovators (CFI) and a Request for Proposals (RFP) for entrepreneurs and innovators with market-ready and emerging technologies or manufacturing processes that transform trash into resources. The CFI and RFP processes will be held from March 9 to April 14.

To learn more about these opportunities, visit our website:

CFI: phoenix.gov/solicitations/277
RFP: phoenix.gov/solicitations/280

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- Planning Program and Local Technical Assistance Program (EDAPLANNING2012)– Applications Accepted on a Continuous Basis
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- NEW! National Facilities Program (PD-05-1743) - Applications Accepted on a Continuous Basis
- Environmental Quality Incentive Program – Applications Accepted on a Continuous Basis
- Offshore Storage Resource Assessment (DE-FOA-0001246) – Applications due March 26, 2015
- Transitional Technology Development to Enable Highly Efficient Power Systems with Carbon Management (DE-FOA-0001238) – Applications due March 30, 2015
- Agriculture and Food Research Initiative - Agriculture and Natural Resources Science for Climate Variability and Change Challenge Area (USDA-NIFA-AFRI-004919) – Letter of Intent due April 2, 2015
- American Indian Air Quality Training Program (EPA-OAR-IO-15-03) – Applications due April 3, 2015
- DUE SOON! Assisting Federal Facilities with Energy Conservation Technologies (AFFECT) (DE-FOA-0001297) – Applications due April 6, 2015
- Agriculture and Food Research Initiative - Water for Agriculture Challenge Area (USDA-NIFA-AFRI-004918) – Letters of Intent due April 9, 2015
- DUE SOON! Strengthening the Public's and/or K-12 Students' Environmental Literacy for Community Resilience to Extreme Weather Events and Environmental Changes (NOAA-SEC-OED-2015-2004408) – Applications due April 13, 2015

- DUE SOON! Scholarship and Fellowship Education (NRC-HQ-84-15-FOA-0001) – Applications due April 17, 2015
- NEW DUE SOON! U.S. Wind Manufacturing: Larger Blades to Access Greater Wind Resources and Lower Costs (DE-FOA-0001214) – Concept Papers due April 17, 2015
- NEW! Faculty Development Grant (NRC-HQ-84-15-FOA-0002) – Applications due April 20, 2015
- NEW! Trade School and Community College Scholarship Grant (NRC-HQ-84-15-FOA-0003) – Applications due April 20, 2015
- Near Zero Power RF and Sensor Operations (DARPA-BAA-15-14) – Applications due April 23, 2015
- Solar Powering America by Recognizing Communities (SPARC)
  Funding Number: DE-FOA-0001241 – Concept Paper Submission Deadline: 3/5/2015 5:00 PM ET; Full Application Submission Deadline:4/27/2015 5:00 PM ET;
  Webinar Information: Date: February 18, 2015 Time: 4:00pm Eastern
  Register here: https://attendee.gotowebinar.com/register/3005409845756656642
- NEW! Market Development Cooperator Program 2015 (ITA-INA-OPCM-2015-2004375) – Applications due April 27, 2015
- Desalination and Water Purification Research and Development (DWPR) (R15AS00019) – Application Due Date: 4/27/2015
- Desalination and Water Purification Research and Development (DWPR) Pilot (R15AS00021) – Application Due Date: 4/27/2015
- American Apprenticeship Initiative (FOA-ETA-15-02) – Application Due Date: 4/30/2015
- The Resilient Electricity Delivery Infrastructure (REDI) Initiative (DE-FOA-0001219) – Application Due Date: 5/04/2014
- NEW! 2015 Federal-State Marketing Improvement Program (USDA-AMS-FSMIP-2015) – Applications due May 14, 2015
- NEW! Recuperator Technology Development and Assessment for Supercritical Carbon Dioxide (SCO2) Based Power Cycles – Applications due May 15, 2015
- Flexible Hybrid Electronics Manufacturing Innovation Institute Grant (BAA-RQKM-2015-0014) – Applications due 5/29/2015
- Economic Development Assistance Programs (EDAP2015) – Applications due June 15, 2015
- Presidential Awards for Excellence in Science, Mathematics and Engineering Mentoring Grant (NSF 15-551) – Applications due June 19, 2015
- Land and Water Conservation Fund State and Local Assistance Program – Application Due Date: 08/11/2015
- NEW! Decision, Risk and Management Sciences (PD-98-1321) - Applications due August 18, 2015
- Advanced Frontiers in Renewable Hydrogen Fuel Production via Solar Water Splitting Technologies – Letter of Intent due 10/7/2015
- Thermal Transport Processed (PD-14-1406) – Application due 10/20/2015

- Energy for Sustainability (PD-14-7644) – Applications due October 20, 2015
- Biotechnology, Biochemical, and Biomass Engineering (PD-14-1491) - Applications due October 20, 2015
- Catalysis and Biocatalysis (PD-14-401) - Applications due October 20, 2015
- Energy, Power, and Adaptive Systems (PD-13-7607) –Applications due November 2, 2015
- Landscape Design for Sustainable Bioenergy Systems (DE-FOA-0001179) – Concept Paper due 11/21/2015
- Repowering Assistance Program – Ongoing
- Rural Business Enterprise Grant – Ongoing
- Rural Business Opportunity Grants – Ongoing
- Rural Energy for America Program
- Sunshot Catalyst Prize (DE-FOA-0001126) - Applications Accepted on a Continuous Basis - The U.S. Department of Energy SunShot Catalyst is an open innovation program that allows the public to rapidly create and develop products and solutions that address near-term challenges in the U.S. solar marketplace through prize challenges.
- Sustainable Agriculture Research and Education Grants - Ongoing
- Renewable Energy RFP's - Solicitations for Renewable Energy Generation, Renewable Energy Certificates, and Green Power – Various Deadlines
- U.S. Dept. of Agriculture - Rural Development Grant Assistance
- Green Refinance Plus – Ongoing
- National Science Foundation Funding Opportunities

FEDERAL RESOURCES

- Guide to Federal Financing for Energy Efficiency and Clean Energy Deployment
- Grants.Gov
- FedConnect
- Funding Opportunity Exchange
- Renewable Energy Request for Proposals - Proposal due Dates Vary